

367th Brookhaven Lecture

Tickling Superconductors With Infrared

Liz Seubert

From determining the structures of interplanetary dust particles to identifying debris from the TWA flight 800 crash off Long Island, many investigative studies done at the National Synchrotron Light Source (NSLS) have used the intense infrared light produced there.

The NSLS infrared light can also be used to detect microscopic changes in materials when they become superconducting, that is, are transformed into a state that allows electricity to pass through with no resistance.

While the superconducting process has been long studied, it is still not completely understood. For instance, researchers at the NSLS are studying a magnesium diboride compound discovered this January in Japan. They are using the pulsed nature of synchrotron light to develop a new type of measurement that reveals more about how this material becomes superconducting at the relatively high temperature of 40 Kelvins.

To describe this novel measurement, Larry Carr of the NSLS Department will give the 367th Brookhaven Lecture on "Tickling Superconductors With Infrared Light." The talk will be given in Berkner Hall at 4 p.m. on Tuesday, October 23.

Larry Carr received his Ph.D. in 1982 at Ohio State University. His research using infrared synchrotron ra-



Larry Carr

diation began in 1988 at Emory University. He continued this work while on the scientific staff of Northrop Grumman, before joining BNL in 1996. Carr's research has focused on infrared properties of superconductors and applications of synchrotron radiation.

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